

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/004999

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K38/17 A61P17/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, BIOSIS, EMBASE, PASCAL, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	WO 03/018758 A (KOMALAVILAS PADMINI ; BROPHY COLLEEN (US); LOKESH JOSHI (US); PANITCH) 6 March 2003 (2003-03-06) claims 1-72	1-23
P,A	TESSIER DERON J ET AL: "The small heat shock protein (HSP) 20 is dynamically associated with the actin cross-linking protein actinin." THE JOURNAL OF SURGICAL RESEARCH. 1 MAY 2003, vol. 111, no. 1, 1 May 2003 (2003-05-01), pages 152-157, XP001182463 ISSN: 0022-4804 the whole document	1-23

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

14 July 2004

Date of mailing of the international search report

22/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
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Authorized officer

Fayos, C

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/004999

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, A	<p>PARMITER CATHERINE MARGARET ET AL: "Protein transduction of biomimetic peptides leads to changes in the actin cytoskeleton of 3T3 cells." FASEB JOURNAL, vol. 17, no. 4-5, March 2003 (2003-03), pages Abstract No. 599.6 URL-http://ww, XP009033553 & FASEB MEETING ON EXPERIMENTAL BIOLOGY: TRANSLATING THE GENOME; SAN DIEGO, CA, USA; APRIL 11-15, 2003 ISSN: 0892-6638 abstract</p>	1-23
A	<p>-----</p> <p>BROPHY C M ET AL: "The small heat shock-related protein-20 is an actin-associated protein." JOURNAL OF VASCULAR SURGERY : OFFICIAL PUBLICATION, THE SOCIETY FOR VASCULAR SURGERY 'AND! INTERNATIONAL SOCIETY FOR CARDIOVASCULAR SURGERY, NORTH AMERICAN CHAPTER. FEB 1999, vol. 29, no. 2, February 1999 (1999-02), pages 326-333, XP009033572 ISSN: 0741-5214 the whole document</p> <p>-----</p>	1-23

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International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 1-23 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

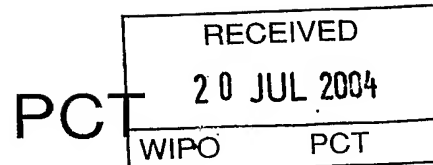
International Application No

PCT/US2004/004999

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03018758	A	06-03-2003	CA 2458574 A1	06-03-2003
			WO 03018758 A2	06-03-2003
			US 2003060399 A1	27-03-2003
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/004999

International filing date (day/month/year)
20.02.2004

Priority date (day/month/year)
21.02.2003

International Patent Classification (IPC) or both national classification and IPC
A61K38/17, A61P17/02

Applicant
ARIZONA BOARD OF REGENTS

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1 (a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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PCT/US2004/004999

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☒ in written format
 - ☒ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☒ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
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Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
☒ claims Nos. 1-23 (industrial applicability)

because:

- ☒ the said international application, or the said claims Nos. 1-23 (industrial applicability) relate to the following subject matter which does not require an international preliminary examination (*specify*):

see separate sheet

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos.
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
- | | |
|----------------------------|--|
| the written form | <input type="checkbox"/> has not been furnished |
| | <input type="checkbox"/> does not comply with the standard |
| the computer readable form | <input type="checkbox"/> has not been furnished |
| | <input type="checkbox"/> does not comply with the standard |
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-23
	No: Claims	-
Inventive step (IS)	Yes: Claims	1-23
	No: Claims	-
Industrial applicability (IA)	Yes: Claims	-
	No: Claims	1-23 see separate sheet

2. Citations and explanations

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

- 1- Claims 1-23 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(I) PCT).

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 2- Reference is made to the following documents:

- D1: WO 03/018758 A (KOMALAVILAS PADMINI ; BROPHY COLLEEN (US); LOKESH JOSHI (US); PANITCH) 6 March 2003 (2003-03-06)
- D2: TESSIER DERON J ET AL: "The small heat shock protein (HSP) 20 is dynamically associated with the actin cross-linking protein actinin." THE JOURNAL OF SURGICAL RESEARCH. 1 MAY 2003, vol. 111, no. 1, 1 May 2003 (2003-05-01), pages 152-157, XP001182463 ISSN: 0022-4804
- D3: PARMITER CATHERINE MARGARET ET AL: "Protein transduction of biomimetic peptides leads to changes in the actin cytoskeleton of 3T3 cells." FASEB JOURNAL, vol. 17, no. 4-5, March 2003 (2003-03), pages Abstract No. 599.6 URL-http://www.XP009033553 & FASEB MEETING ON EXPERIMENTAL BIOLOGY: TRANSLATING THE GENOME; SAN DIEGO, CA, USA; APRIL 11-15, 2003 ISSN: 0892-6638
- D4: BROPHY C M ET AL: "The small heat shock-related protein-20 is an actin-associated protein." JOURNAL OF VASCULAR SURGERY : OFFICIAL PUBLICATION, THE SOCIETY FOR VASCULAR SURGERY [AND] INTERNATIONAL SOCIETY FOR CARDIOVASCULAR SURGERY, NORTH AMERICAN CHAPTER. FEB 1999, vol. 29, no. 2, February 1999 (1999-02), pages 326-333, XP009033572 ISSN: 0741-5214

NOVELTY - Art. 33 (1) and (2) PCT and INVENTIVE STEP - Art. 33 (1) and (3) PCT

- 3- None of the prior art documents cited in the search report explicitly mentions or appears to suggest the use of HSP20 or derivatives thereof (see present claims 1 and 13) for the manufacture of a medicament for reducing scar formation or for

promoting wound healing.

Claims 1-23 seem appear therefore to be novel and inventive over the prior art at hand.

INDUSTRIAL APPLICABILITY - Art. 33 (1) and (4) PCT

- 4- For the assessment of the present claims 1-23 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.